

IN THE CLAIMS

Please amend the claims as follows:

1. (Original) In a data processing system executing tasks in different time partitions, a method of scheduling tasks comprising:
determining available slack; and
allocating slack to tasks in different time partitions.
2. (Original) The method of claim 1 wherein the tasks that are allocated slack are aperiodic, non-essential tasks.
3. (Original) The method of claim 2 wherein the tasks comprise essential and non-essential tasks, and wherein the tasks that are allocated slack are from the group consisting of new non-essential tasks and enhancements to essential tasks.
4. (Original) The method of claim 1 wherein in determining, both timeline slack and reclaimed slack are determined.
5. (Original) A machine-readable medium having instructions stored thereon capable of causing a processor to carry out a method, the method comprising:
scheduling tasks to execute in different time partitions;
determining available slack; and
allocating slack to tasks in different time partitions.
6. (Original) In a data processing system executing tasks in different time partitions, a method of scheduling tasks comprising:
collecting unscheduled execution time from at least one time partition; and,
allocating the unscheduled execution time to a task in another time partition.

-
7. (Original) The method of claim 6, wherein the task in the other partition is an aperiodic, non-essential task.
8. (Original) The method of claim 7, wherein the tasks comprise essential and non-essential tasks, and wherein the task in the other partition is from the group consisting of new non-essential tasks and enhancements to essential tasks.
9. (Original) The method of claim 6, wherein in collecting unscheduled execution time, both timeline slack and reclaimed slack are collected.
10. (Original) A machine-readable medium having instructions stored thereon capable of causing a processor to carry out a method, the method comprising:
- scheduling tasks to execute in different time partitions;
 - collecting unscheduled execution time from at least one time partition; and
 - allocating the unscheduled execution time to a task in another time partition.
11. (Original) In a time-partitioned system executing essential and non-essential tasks, a method of scheduling tasks comprising:
- determining available slack from the group consisting of timeline slack and reclaimed slack;
 - pooling available slack in a common slack pool; and
 - allocating slack from the common slack pool to tasks.
12. (Original) The method of claim 11, wherein in allocating, slack is allocated to non-essential tasks.
13. (Original) The method of claim 11, wherein in allocating, slack is allocated to a task from the group consisting of new non-essential tasks and enhancements to essential tasks.

14. (Original) A machine-readable medium having instructions stored thereon capable of causing a processor to carry out a method, the method comprising:

- scheduling tasks to execute in different time partitions;
- determining available slack from the group consisting of timeline slack and reclaimed slack;
- pooling available slack in a common slack pool; and
- allocating slack from the common slack pool to tasks.

15. (Original) In a time-partitioned system executing essential and non-essential tasks, a method of scheduling tasks comprising:

- determining available timeline slack;
- determining available reclaimed slack;
- pooling available timeline and reclaimed slack; and
- allocating slack to a task in any time partition.

16. (Original) The method of claim 15, wherein in allocating, slack is allocated to a non-essential task.

17. (Original) The method of claim 15, wherein in allocating, slack is allocated to a task from the group consisting of new non-essential tasks and enhancements to essential tasks.

18. (Original) A machine-readable medium having instructions stored thereon capable of causing a processor to carry out a method, the method comprising:

- scheduling tasks to execute in different time partitions;
- determining available timeline slack;
- determining available reclaimed slack;
- pooling available timeline and reclaimed slack; and
- allocating slack to a task in any time partition.

19. (Currently Amended) A time-partitioned system comprising:
a processor to execute a plurality of tasks, wherein each task of the plurality of tasks is of a task type selected from the group consisting of essential and non-essential, and wherein each task of the plurality of tasks has associated with it at least one worst case execution time; and
~~a plurality of tasks operating on the processor, wherein each task of the plurality of tasks is of a task type selected from the group consisting of essential and non-essential, wherein each task of the plurality of tasks has associated with it at least one worst case execution time; and~~
an executive to be in communication with the processor and to control ~~controlling~~ dispatching of tasks on the processor, wherein the executive comprises:
a first module that is to determine ~~determines~~ available slack; and
a second module that is to allocate ~~allocates~~ available slack to tasks in different time partitions.
20. (Currently Amended) The time-partitioned system of claim 19, wherein the first module is to determine ~~determines~~ available slack by determining slack from the group consisting of timeline slack, reclaimed slack, and idle time.
21. (Currently Amended) The time-partitioned system of claim 20, wherein the first module is to maintain ~~maintains~~ a pool of available slack.
22. (Currently Amended) The time-partitioned system of claim 20, wherein the first module is to maintain ~~maintains~~ a common pool of available slack that can be used by tasks in any time partition.
23. (Currently Amended) The time-partitioned system of claim 19, wherein the second module is to allocate ~~allocates~~ available slack to tasks that are non-essential.
24. (Original) The time-partitioned system of claim 23, wherein the tasks are from the group consisting of new non-essential tasks and enhancements to essential tasks.

25. (Currently Amended) The time-partitioned system of claim 23, wherein the executive further comprises a third module that is to assign ~~assigns~~ different priority levels to tasks.
26. (Currently Amended) The time-partitioned system of claim 25, wherein the first module is to determine ~~determines~~ available slack for tasks at each priority level.
27. (Currently Amended) The time-partitioned system of claim 25, wherein the second module is to allocate ~~allocates~~ available slack to tasks in order of priority.
28. (Original) The time-partitioned system of claim 19, wherein the system is a flight control system.
29. (Original) The time-partitioned system of claim 19, wherein the system is a real-time control system.
30. (Original) The time-partitioned system of claim 19, wherein the executive comprises a single set of slack variables and a single slack table.